

PART IV-A

TANK STORAGE REQUIREMENTS FOR SMALL QUANTITY GENERATORS

Indicate:

X Violations

Indicate:

X Satisfactory  
NA Not Applicable

(a) General operating requirements

- (1) \_\_\_ Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to fail - 373-3.10(1)(2)(ii). \_\_\_
- (2) \_\_\_ Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless there is adequate containment - 373-3.10(1)(2)(iii). \_\_\_
- (3) \_\_\_ Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow - 373-3.10(1)(2)(iv). \_\_\_
- (4) \_\_\_ The owner or operator must mark all tanks with the words "Hazardous Waste" and with other words that identify the contents of the tanks - 372.2(a)(8)(iii)(d): 373-1.1(d)(1)(iii)(c)(3). \_\_\_

(b) Tank(s) are inspected each operating day for:

- (1) \_\_\_ discharge control equipment (e.g. waste feed cutoff systems, bypass systems and drainage systems) - 373-3.10(1)(3)(i). \_\_\_
- (2) \_\_\_ monitoring equipment (e.g. pressure and temperature gauges) - 373-3.10(1)(3)(ii). \_\_\_
- (3) \_\_\_ level of waste in tank to ensure proper freeboard - 373-3.10(1)(3)(iii). \_\_\_

(c) Tank(s) are inspected weekly for:

- (1) \_\_\_ corrosion or leaking of fixtures or seams - 373-3.10(1)(3)(iv). \_\_\_
- (2) \_\_\_ erosion or obvious signs of leakage (e.g. wet spots or dead vegetation) of the construction materials of, and the area immediately surrounding discharge confinement structures (e.g. dikes) - 373-3.10(1)(3)(v). \_\_\_

(d) Tank closure

- (1) \_\_\_ At closure, all hazardous waste must be removed from tanks, discharge control equipment and discharge confinement structures - 373-3.10(1)(4). \_\_\_

(e) Special tank requirements for ignitable or reactive waste

- (1) \_\_\_ Ignitable or reactive waste is placed in a tank and the waste is stored, treated, rendered or mixed before \_\_\_

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or immediately after placement in the tank so that the resulting waste, mixture or dissolution of material is no longer ignitable or reactive - 373-3.10(1)(5)(i)(a)(1); and

- (2) \_\_\_ The treatment, storage or disposal of ignitable or reactive waste in a tank is conducted so that it does not - 373-3.10(1)(5)(i)(a)(2):
- (a) \_\_\_ generate extreme heat or pressure, fire or explosions violent reactions - 373-3.2(h)(2)(i);
- (b) \_\_\_ produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health - 373-3.2(h)(2)(ii);
- (c) \_\_\_ produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion - 373-3.2(h)(2)(iii);
- (d) \_\_\_ damage the structural integrity of the device or facility containing the waste - 373-3.2(h)(2)(iv); or
- (e) \_\_\_ through other like means threaten human health or the environment - 373-3.2(h)(2)(v); or
- (3) \_\_\_ The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react - 373-3.10(1)(5)(i)(b); or
- (4) \_\_\_ The tank is used solely for emergencies - 373-3.10(1)(5)(i)(c).
- (5) \_\_\_ The storage of ignitable or reactive waste in covered tanks complies with the National Fire Protection Association's (NFPA's) buffer zone requirements for tanks, contained in Tables 2-1 thru 2-6 of the "Flammable and Combustible Liquids Codes." - 373-3.10(1)(5)(ii).

(f) Special Tank Requirements for Incompatible Wastes

- (1) \_\_\_ Incompatible wastes, or incompatible wastes and materials, are not placed in the same tank and hazardous waste is not placed in an unwashed tank which previously held an incompatible waste or material unless the mixture or commingling is conducted to prevent the following - 373-3.10(e)(6):
- (a) \_\_\_ generation of extreme heat or pressure, fire or explosions, or violent reactions;
- (b) \_\_\_ production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- (c) \_\_\_ production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of

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fire or explosions;

(d) \_\_\_ damage to the structural integrity of the device \_\_\_  
or facility containing the waste; or

(e) \_\_\_ through other like means threaten human health \_\_\_  
or the environment.

(g) Secondary Containment Requirements for Tanks

Applicability: Small quantity generator must provide secondary containment system for tanks, at the time more than 185 gallons of liquid hazardous waste are accumulated, or at the time any liquid hazardous waste are accumulated in underground storage tanks - 373-1.1(d)(1)(iv)(g).

A. \_\_\_ Secondary containment systems must be designed, installed \_\_\_  
and operated to prevent any migration of wastes or accumulated  
liquids out of the system to the soil, groundwater or surface  
water at any time during the use of tank system -  
373-3.10(d)(2)(i).

B. \_\_\_ Secondary containment systems must be capable of detecting \_\_\_  
and collecting releases of accumulated liquids until the  
collected material is removed - 373-3.10(d)(2)(ii).

C. At a minimum, the containment system is:

1. \_\_\_ constructed of or lined with materials that are \_\_\_  
compatible with the wastes to be placed in the tank system  
and must have sufficient strength and thickness to prevent  
failure due to pressure gradients (including static head  
and external hydrological forces), physical contact with the  
waste to which they are exposed, climatic conditions, the  
stress of installation, (including stresses from nearby  
vehicular traffic) - 373-3.10(d)(3)(i);

2. \_\_\_ placed on a foundation or base capable of providing \_\_\_  
support to the secondary containment system, providing  
resistance to pressure gradients above and below the system,  
and preventing failure due to settlement, compression, or  
uplift - 373-3.10(d)(3)(ii);

3. \_\_\_ provided with a leak detection system that is designed \_\_\_  
and operated so that it will detect the failure of either  
the primary and secondary containment structure or any  
release of hazardous waste or accumulated liquid in the  
secondary containment system with 24 hours, or at the  
earliest practicable time if the existing detection

technology or site conditions will not allow detection of  
a release within 24 hours - 373-3.10(d)(3)(iii); and

4. \_\_\_ sloped or otherwise designed or operated to drain and \_\_\_  
remove liquids resulting from leaks, spills, or precipitation.  
Spilled or leaked waste and accumulated precipitation must be  
removed from the secondary containment system within 24 hours,  
or in as timely a manner as is possible to prevent harm to  
human health or the environment, if removal of the released  
waste or accumulated precipitation cannot be accomplished

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within 24 hours - 373-3.10(d)(3)(iv).

D. Secondary containment for tanks includes one or more of the following devices: 373-3.10(d)(4).

1. ☐ a liner (external to the tank) [Complete Item E1]; \_\_\_\_\_
2. ☐ a vault [Complete Item E2]; \_\_\_\_\_
3. ☐ a double-walled tank [Complete Item E3]; or \_\_\_\_\_
4. ☐ an equivalent device as approved by the Commissioner. \_\_\_\_\_

E. In addition to Items A through D above, secondary containment systems must meet the following requirements:

1. External liner systems must be - 373-3.10(d)(5)(i):

- (a) ☐ designed or operated to contain 100 percent of the capacity of the largest tank or the volume of all interconnected tanks, whichever is greater, within its boundary - 373-3.10(d)(5)(i)(a); \_\_\_\_\_
- (b) ☐ designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event - 373-3.10(d)(5)(i)(b); \_\_\_\_\_
- (c) ☐ free of cracks or gaps - 373-3.10(d)(5)(i)(c). \_\_\_\_\_
- (d) ☐ designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tanks (i.e. capable of preventing lateral as well as vertical migration of the waste. For onground tanks, the external liner system must also encompass the bottom of the tank) - 373-3.10(d)(5)(i)(d); \_\_\_\_\_
- (e) ☐ external concrete liners must be constructed with chemical-resistant water stops in place at all joints (if any) - 373-3.10(d)(5)(i)(e); and \_\_\_\_\_
- (f) ☐ external concrete liners must be provided with an impermeable interior coating that is compatible with the stored waste and that will prevent migration of waste into the concrete - 373-3.10(d)(5)(i)(f). \_\_\_\_\_

2. Vault systems must be - 373-3.10(d)(5)(ii):

- (a) ☐ designed or operated to contain 100 percent of the capacity of the largest tank or the volume of all interconnected tanks, whichever is greater, within its boundary - 373-3.10(d)(5)(ii)(a); \_\_\_\_\_
- (b) ☐ designed or operated to prevent run-on or \_\_\_\_\_

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infiltration or precipitation into the secondary containment system unless the collection system has sufficient capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event - 373-3.10(d)(5)(ii)(b);

- (c) \_\_\_\_ constructed with chemical-resistant water stops in place at all joints (if any) - 373-3.10(d)(5)(ii)(c); \_\_\_\_
- (d) \_\_\_\_ provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete - 373-3.10(d)(5)(ii)(d). \_\_\_\_
- (e) \_\_\_\_ provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault, if the vault is subject to hydraulic pressure - 373-3.10(d)(5)(ii)(f); and \_\_\_\_
- (f) \_\_\_\_ provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated - 373-3.10(d)(5)(ii)(e): \_\_\_\_

(1) meets the definition of ignitable waste under section 371.3(b); or

(2) meets the definition of reactive waste under section 371.3(d) and may form an ignitable or explosive vapor.

3. Double-walled tanks must be - 373-3.10(d)(5)(iii):

- (a) \_\_\_\_ designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell - 373-3.10(d)(5)(iii)(a); \_\_\_\_
- (b) \_\_\_\_ protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell - 373-3.10(d)(5)(iii)(b); and \_\_\_\_
- (c) \_\_\_\_ provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the commissioner, and the commissioner concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours - 373-3.10(d)(5)(iii)(c). \_\_\_\_

F. Ancillary Equipment - 373-3.10(d)(6).

1. \_\_\_\_ Ancillary equipment must be provided with full secondary \_\_\_\_

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containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of 373-3.10(d)(2) & (3), unless they are aboveground and visually inspected for leaks on a daily basis.